

ABSTRACT OF THE DISCLOSURE

Apparatus and method for performing surgical procedures within the mediastinum[, in particular] or within the pericardium[, are described. An] include an endoscopic cannula [having a cannula with at least one lumen, a transparent tip, and an endoscope,] that is introduced into the mediastinum and optionally into the pericardium via a [single] subxiphoid incision. A cavity may be initially dilated for advancing the endoscopic cannula using a dilating tool having an inner cannula and an outer expandable sheath[, wherein the] that is expandable [sheath] to exert[s] a laterally expansive force against the surrounding tissue. [creating a working cavity to allow larger instruments such as the endoscopic cannula to be introduced into the mediastinum. Other surgical] Surgical instruments[, for example a] such as a pericardial entry device [for providing entry through the pericardium, are then] are inserted into a lumen of the endoscopic cannula[. Where operation on the heart is desired, the pericardial entry device is used, which includes a grasping tool and a cutting tool and is advanced through the single incision into the expandable sheath. Once a] to grasp a flap of the pericardium, [is grasped, the] and a cutting tool is extended [and] to [cuts] cut the flap[, and creating] to create a small opening [into] through which other surgical tools may be introduced. The endoscopic cannula can then be advanced inside the

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pericardium [and] to access all regions of the heart [may be accessed] by sweeping the endoscopic cannula around the heart. [Once the endoscopic cannula is in the desired position, other] Other surgical instruments may [then] be inserted through the opening to perform surgical procedures within the pericardium.

ABSTRACT

Apparatus and method for performing surgical procedures within the mediastinum, in particular within the pericardium, are described. An endoscopic cannula having a cannula with at least one lumen, a transparent tip, and an endoscope, is introduced into the mediastinum and optionally into the pericardium via a single subxiphoid incision. A cavity may be initially dilated for advancing the endoscopic cannula using a dilating tool having an inner cannula and an outer expandable sheath, wherein the expandable sheath exerts a laterally expansive force against the surrounding tissue creating a working cavity to allow larger instruments such as the endoscopic cannula to be introduced into the mediastinum. Other surgical instruments, for example a pericardial entry device for providing entry through the pericardium, are then inserted into a lumen of the endoscopic cannula. Where operation on the heart is desired, the pericardial entry device is used, which includes a grasping tool and a cutting tool and is advanced through the single incision into the expandable sheath. Once a flap of the pericardium is grasped, the cutting tool is extended and cuts the flap, creating a small opening into which other surgical tools may be introduced. The endoscopic cannula can then be advanced inside the pericardium, and all regions of the heart may be accessed by sweeping the endoscopic cannula around the heart. Once the endoscopic cannula is in the desired position, other surgical instruments may then be inserted through the opening to perform surgical procedures within the pericardium.

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